

Application No: 10/790,383
Amendment dated June 27, 2006
Reply to Office Action Dated March 27, 2006

Attorney Docket No: 3926.070

IN THE CLAIMS:

The following listing of claims replaces any earlier listing:

1-5. (cancelled)

6. (currently amended) A process for laser beam welding a plate, with ~~pre- and/or post- thermal treatment in the area of the weld seam, with a laser beam with substantially constant output for both the welding and thermal treatment,~~ comprising

welding a surface of the plate with a laser beam to form a weld seam, and carrying out a pre- and/or post- thermal treatment in the area of the weld seam with the same laser beam by guiding said the laser beam over said the surface prior to and/or after said the welding,

wherein the laser beam has substantially constant output for both the welding and the thermal treatment.

wherein said the welding and the thermal treatment are separated timewise from each other in such a manner that the temperature reduction of the respective illuminated radiated surface from the point in time of the first illumination radiation to the point in time of the subsequent illumination radiation is less than 50%, and

wherein during the thermal treatment the laser energy input, based on the illuminated radiated surface area and time, is adjusted by defocusing the laser beam and/or increasing the rate of advance in such a manner that the side of the existing or to-be-formed weld seam opposite to the laser beam is warmed by at least 10°C.

7. (previously presented) The process according to Claim 6, wherein the laser beam is guided along the surface via a scanner device.

8-9. (cancelled)

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10. (previously presented) The process according to Claim 6, wherein during the thermal treatment the laser beam is guided in such a manner that a transverse movement component is superimposed over its main direction of advance.

11. (previously presented) The process according to Claim 10, wherein said transverse movement component is a circular movement component.

12. (previously presented) The process according to Claim 6, wherein welding and thermal treatment occur alternatingly in the manner of a step seam.